

TEST TITLE: CV-3989(V)1/SP ANALOG TO DIGITAL
CONVERTER ILO

TEST NO: 45011-3-060
REV/CHG: A

COVER SHEET

TEST PROCEDURE PREPARATION:

Prepared by: NSWC PHD DAM NECK DET CODE 6E10
TDA Organization and Code

Date: 31 DEC 98

TEST PROCEDURE REVIEW:

Reviewed by: NSWC PHD DAM NECK DET CODE 6D10
TDM Organization and Code

Date: 4 JAN 99

DOCUMENTATION CERTIFICATION:

Approved by: _____
TDD Organization and Code

Date: _____

REVISION RECORD

<u>REV/CHG</u>	<u>DESCRIPTION</u>	<u>Approval</u>	
		<u>INITIAL</u>	<u>DATE</u>
-	Original Issue	NSWC	24Nov 97
A	Incorporated validation changes.	FES	18Dec 98

LIST OF EFFECTIVE PAGES

<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>
1 - A	2 - A	3 - A	4 - A	5 - A	6 - A	7 - A
8 - A	9 - A	10 - A	11 - A	12 - A	13 - A	14 A

TEST OUTLINE

1. OBJECTIVE:

To verify that the Radar section of a CV-3989(V)1/SP Dual Signal Data Converter (CV-3989(V)1/SP DSDC) is operating properly during initial lite-off.

2. ESTIMATED TESTING TIME:

1 hour

3. REFERENCES:

SE650-AQ-MMO-A10, Technical Manual, Operations and Maintenance for the Dual Signal Data Converter, CV-3989(V)1/SP

4. TEST OR SUPPORT EQUIPMENT AND MATERIAL:

<u>GENERIC NAME</u>	<u>QUANTITY</u>	<u>IDENTIFYING INFORMATION</u>
a. Frequency Counter	1	SCAT 4296 or equivalent
b. Multimeter, Digital	1	SCAT 4237 or equivalent

5. COMPUTER PROGRAMS REQUIRED:

None.

6. PREREQUISITES:

None.

7. SPECIAL CONDITIONS AND SERVICES:

115 VAC, 1 ϕ , 60 Hz Power

8. EQUIPMENT INVOLVED IN TEST:

CV-3989(V)1/SP DSDC

9. CONFIGURATION:

No field changes required to run this test.

10. METHOD:

A visual inspection of the CV-3989(V)1/SP DSDC shall be conducted to ensure it is free of damage, debris and loose wire connections. Ensure input and power supply voltage levels are within tolerance and Light Emitting Diode (LED) indicators are functional.

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11. STATION ASSIGNMENTS:

<u>STATION</u>	<u>NO. PERSONNEL</u>	<u>COMMENTS</u>
CV-3989(V)1/SP DSDC	1 Electronic Technician	Performs ILO Test

SAFETY INSTRUCTIONS

- a. The operation of this equipment involves the use of high voltages that are dangerous to life. Extreme caution must be exercised at all times. Do not work on open or disassembled units when power is applied.
- b. Turning OFF the CV-3989(V)1/SP DSDC by using the AC POWER Switch does not remove the ship 115 VAC.

INITIAL CONDITIONS AND SETUP

STEP	STATION	INSTRUCTIONS
1	SPDP	Turn OFF and tag Main Circuit Breaker at Ship Power Distribution Panel (SPDP).
2	CV-3989(V)1/SP DSDC	Open unit's front door.
3	CV-3989(V)1/SP DSDC	Set AC POWER Switch (Figure 1) to OFF position.

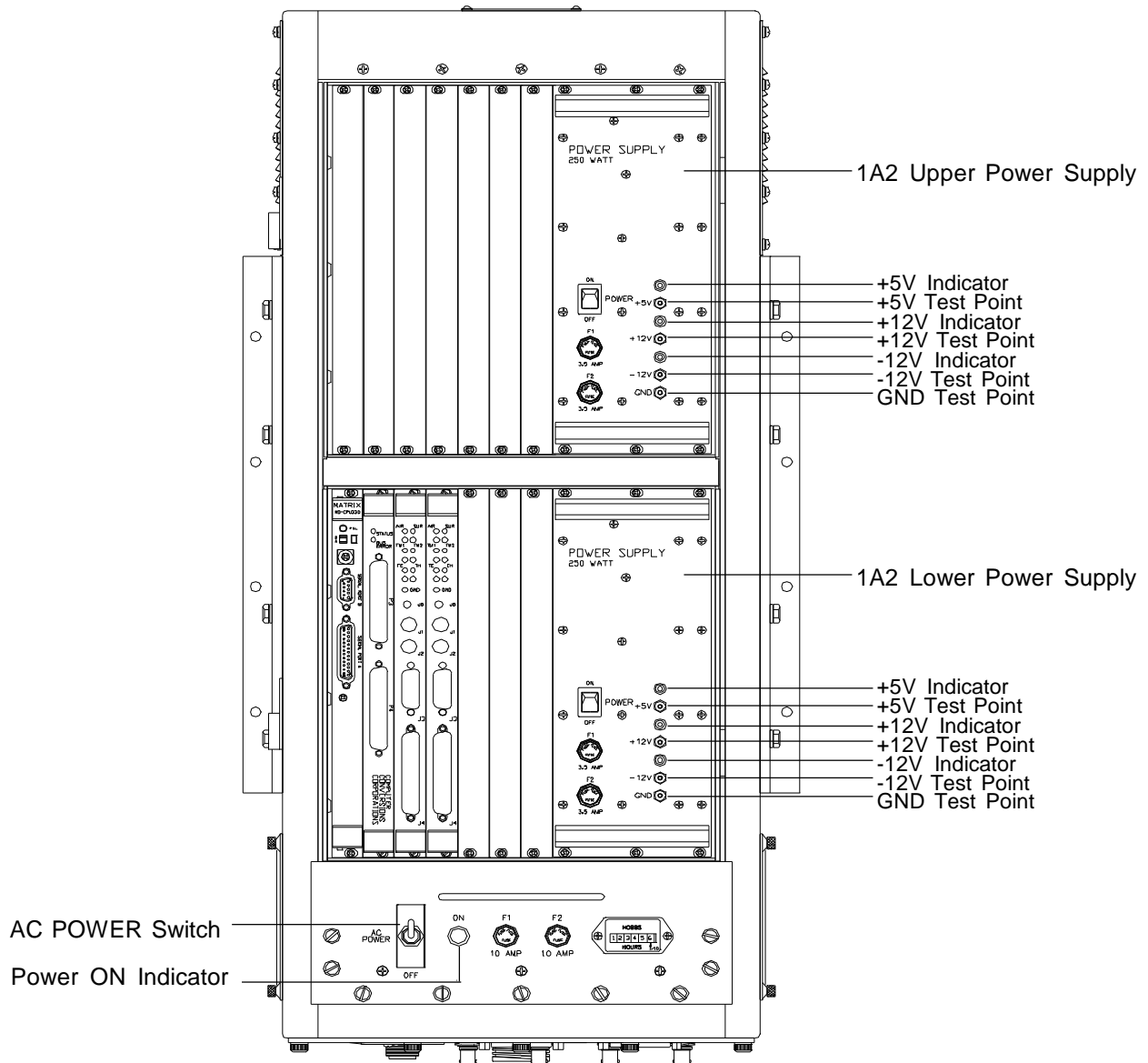


Figure 1. CV-3989(V)1/SP DSDC Front View

INITIAL CONDITIONS AND SETUP

<u>STEP</u>	<u>STATION</u>	<u>INSTRUCTIONS</u>
4	CV-3989(V)1/SP DSDC	Inspect equipment for: a. Presence of foreign matter. b. Loose cables and cable connections. c. Damaged or chaffed cable insulation. d. Loose or missing protective covers. e. Loose modules, fastening hardware, or circuit cards.

TESTING STEPS

<u>STEP</u>	<u>STATION</u>	<u>INSTRUCTIONS</u>								
1	CV-3989(V)1/SP DSDC	Disconnect AC Input cable to J47 connector on the units bottom I/O panel.								
123	SPDP	Remove tag and turn ON Main Circuit Breaker at SPDP.								
3	CV-3989(V)1/SP DSDC	Verify the following cable voltages and frequency. <table><tr><td><u>Contact</u></td><td><u>Signal Designation</u></td></tr><tr><td>A to C</td><td>105 VAC to</td></tr><tr><td>B to Chassis Gnd</td><td><1 VAC</td></tr><tr><td>A to C</td><td>≥50 Hz to ≤63</td></tr></table>	<u>Contact</u>	<u>Signal Designation</u>	A to C	105 VAC to	B to Chassis Gnd	<1 VAC	A to C	≥50 Hz to ≤63
<u>Contact</u>	<u>Signal Designation</u>									
A to C	105 VAC to									
B to Chassis Gnd	<1 VAC									
A to C	≥50 Hz to ≤63									
125 VAC										
Hz										
		<u>RECORD</u> on Test Data Recording sheet.								
4	SPDP	Turn OFF and tag Main Circuit Breaker at SPDP.								
5	CV-3989(V)1/SP DSDC	Reconnect AC Input cable to J47.								
6	SPDP	Remove tag and turn ON Main Circuit Breaker at SPDP.								
7	CV-3989(V)1/SP DSDC	Set AC POWER switch to ON position.								
8	CV-3989(V)1/SP DSDC	Ensure Power ON indicator is lit and exhaust fans are running. <u>RECORD</u> on Test Data Recording sheet.								
9	CV-3989(V)1/SP DSDC	Set Upper and Lower 1A2 Power Supply switches to ON position independently.								

TESTING STEPS

<u>STEP</u>	<u>STATION</u>	<u>INSTRUCTIONS</u>								
10	CV-3989(V)1/SP DSDC	Verify the +5V, +12V, and -12V voltage indicators for each 1A2 Power Supply are lit. <u>Indicator</u> +5V +12V -12V <u>RECORD</u> on Test Data Recording sheet.								
11	CV-3989(V)1/SP DSDC	Use a Multimeter to measure Power Supply voltages at the following test points for each 1A2 Power Supply. <table><tr><td><u>Test Point</u></td><td><u>Expected Value</u></td></tr><tr><td>+5V</td><td>+4.85 VDC to +5.45 VDC</td></tr><tr><td>+12V</td><td>+11.64 VDC to +12.8 VDC</td></tr><tr><td>-12V</td><td>-12.8 VDC to -11.64 VDC</td></tr></table> <p><u>NOTE</u> Connect the common black lead to a (GND) test point and measure the test points indicated. <u>RECORD</u> on Test Data Recording sheet.</p>	<u>Test Point</u>	<u>Expected Value</u>	+5V	+4.85 VDC to +5.45 VDC	+12V	+11.64 VDC to +12.8 VDC	-12V	-12.8 VDC to -11.64 VDC
<u>Test Point</u>	<u>Expected Value</u>									
+5V	+4.85 VDC to +5.45 VDC									
+12V	+11.64 VDC to +12.8 VDC									
-12V	-12.8 VDC to -11.64 VDC									

SHUTDOWN AND SECURING

<u>STEP</u>	<u>STATION</u>	<u>INSTRUCTIONS</u>
1	CV-3989(V)1/SP DSDC	Set Upper and Lower 1A2 Power Supply switches to OFF position independently.
2	CV-3989(V)1/SP DSDC	Set AC POWER switch to OFF position.
3	CV-3989(V)1/SP DSDC	Close unit's front door.

TEST DATA RECORDING

EQUIPMENT

CV-3989(V)1/SP DSDC

SERIAL NO.

PREREQUISITES

None

TEST DATA RECORDING

<u>STEP</u>	<u>TEST ELEMENT</u>	<u>EXPECTED RESULTS</u>	<u>ACTUAL RESULTS</u>
3	<u>AC POWER INPUT CONNECTOR VOLTAGE LEVEL</u> J47 <u>Contact</u> A to C B to Chassis Ground A to C	105 VAC to 125 VAC <1 VAC ≥50 Hz to ≤63 Hz	____ VAC ____ VAC ____ Hz
8	<u>POWER ON INDICATOR IS LIT AND FANS ARE RUNNING</u> AC Power Switch	Indicator is Lit Fans Rotate	_____ _____
10	<u>POWER SUPPLY MODULE FRONT PANEL LEDS</u> <u>1A2 (UPPER)</u> +5V +12V -12V <u>1A2 (LOWER)</u> +5V +12V -12V	Lit (Green) Lit (Green) Lit (Green) Lit (Green) Lit (Green) Lit (Green)	_____ _____ _____ _____ _____ _____

SHIP HULL NO.

TEST CONDUCTOR
SIGNATURE

GOVERNMENT WITNESS
SIGNATURE

DATE

TEST DATA RECORDING

<u>STEP</u>	<u>TEST ELEMENT</u>	<u>EXPECTED RESULTS</u>	<u>ACTUAL RESULTS</u>
11	<u>POWER SUPPLY TEST POINT VOLTAGES</u>		
	<u>1A2 (UPPER)</u>		
	+5V	+4.85 VDC to +5.45 VDC	_____VDC
	+12V	+11.64 VDC to +12.8 VDC	_____VDC
	-12V	-12.8 VDC to -11.64 VDC	_____VDC
	<u>1A2 (LOWER)</u>		
	+5V	+4.85 VDC to +5.45 VDC	_____VDC
	+12V	+11.64 VDC to +12.8 VDC	_____VDC
	-12V	-12.8 VDC to -11.64 VDC	_____VDC

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TEST EQUIPMENT USED

List all test equipment utilized in the test including all general and specialized test equipment, special test cables, attenuators, and any other materials requiring calibration. Include extra sheets as necessary to identify all test equipment.

<u>GENERIC NAME</u>	<u>MODEL</u>	<u>SERIAL NO.</u>	<u>CALIBRATION DUE DATE</u>	<u>REMARKS</u>
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COMMENTS

This sheet is provided for the test conductor or Government witness to make appropriate comments including the following:

- a. Visual observations of dynamic responses;
- b. Erratic or unusual equipment behavior;
- c. Operational or handling difficulties;
- d. Procedural corrections;
- e. Equipment malfunctions;
- f. Discrepancies noted during test conduct; and,
- g. Waivers including reference to authorization document, i.e., letter, message, etc.

Indicate if a Test Problem Report (TPR) was generated with respect to these or other problems.

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